

WHAT IS CLAIMED IS:

1. A semiconductor product formed by a process comprising:
providing a slurry having a pH within the range of from about 6 to about 11 between a polishing pad and a composite comprised of a layer of silicon dioxide overlying a layer of silicon nitride, the slurry comprising an aqueous medium having abrasive particles dispersed therein and a compound selected from the group consisting of proline, glycine and alanine; and
removing the layer silicon dioxide overlying the layer of silicon nitride by chemical mechanical polishing, wherein the rate of silicon dioxide removal to silicon nitride removal is greater than 5:1.
2. The product of claim 1 wherein the abrasive particles are ceria.
3. The product of claim 2 wherein the ceria is prepared to have an isoelectric point of about 9.5.
4. The product of claim 1 wherein the slurry further comprises KOH.
5. The product of claim 1 wherein the slurry comprises water, ceria with an isoelectric point of about 9.5, and has a pH adjusted to between about 7 and about 10.
6. The product of claim 1 wherein the abrasive particles are titania.
7. A slurry for use in removing silicon dioxide in preference to silicon nitride by chemical mechanical polishing in the shallow trench isolation process, the slurry comprising:

an aqueous medium having abrasive particles dispersed therein;
and

proline;

wherein the slurry has a pH within the range of from about 6 to about 11 and provides a silicon dioxide to silicon nitride removal rate selectivity of greater than 5:1.

8. The slurry according to claim 7 wherein the abrasive particles are selected from the group consisting of ceria and titania.

9. A slurry for use in removing silicon dioxide in preference to silicon nitride by chemical mechanical polishing in the shallow trench isolation process, the slurry comprising:

an aqueous medium having abrasive particles dispersed therein;
and

glycine;

wherein the slurry has a pH within the range of from about 6 to about 11 and provides a silicon dioxide to silicon nitride removal rate selectivity of greater than 5:1.

10. The slurry according to claim 9 wherein the abrasive particles are selected from the group consisting of ceria and titania.

11. A slurry for use in removing silicon dioxide in preference to silicon nitride by chemical mechanical polishing in the shallow trench isolation process, the slurry comprising:

an aqueous medium having abrasive particles dispersed therein;
and

alanine;

wherein the slurry has a pH within the range of from about 6 to about 11 and provides a silicon dioxide to silicon nitride removal rate selectivity of greater than 5:1.

12. The slurry according to claim 11 wherein the abrasive particles are selected from the group consisting of ceria and titania.